

Brief Description of Arguments to be Presented

1. Claims 21-25 Distinguish from and Are Patentable over Yoshimura 5073179, Kenmochi 6178778 and Yamamura 6220057

- It is a well-known and clear fact that fiber manufacturing has two major distinct processes, i.e., the preform manufacturing and the optical fiber drawing. They are totally separated processes and not combined due to a lot of technical difficulties. Please refer to the prior art.
- Yamamura 6220057 is in different scope and content for manufacturing glass ingot, not for optical fiber drawing process. Similarly, Kenmochi 6178778 is in different scope and content for manufacturing preform, not for optical fiber drawing process.
- Yamamura clearly does not teach a step of measuring the outermost diameter of final ingot after unavoidable shrinkage in his process. His last measurement of ingot is in furnace 10 as shown in his Figs. 1 and 5. His new measurement is also in furnace 10 and is used to control the furnace temperature distribution.
- What Yoshimura 5073179 anticipated is “but also, as a whole, limiting such factors described above” as he clearly stated in his invention (col. 3, lines 31-39).
- Kenmochi clearly does not teach a step of measuring the outermost diameter of final preform after unavoidable shrinkage in his process. His two measurements (67, 68) are in the furnace.
- Either Kenmochi process or Yamamura process makes different product from the present invention product.
- Even as modified or combined of Yoshimura, Kenmochi with Yamamura, the resultant teaching still omit one or more of the Applicant’s claimed features. Please refer to the **Substantial Feature Comparison Table** below.

2. Claims 26-34 Distinguish from and Are Patentable over Urruti 5551967, Kenmochi 6178778 and Yamamura 6220057

- The proposed modification of Urruti 5551967 by omitting the hermetic coating destroys the purpose of Urruti’s invention and damages the product quality of the optical fiber. This function is Desired and Required, thus hermetic coating can not be omitted in Urruti 5551967.

- Even as modified or combined of Urruti with Kenmochi and/or Yamamura, the resultant teaching still omit one or more of the Applicant's claimed features. Please refer to the **Substantial Feature Comparison Table**.
- In measuring, where to locate monitor is very important and it does significantly limit the claim and is patentable if it is new, useful and unobvious. A typical example is Yoshimura US 5073179.
- The concept that "with any process, the more locations the product is monitored, the better the final product would be" is totally incorrect. On the other hand, the present invention is totally not a case of "Duplication of Parts".
- Urruti 5551967 does not anticipate the present invention claimed in Claim 26. Otherwise, he would not have taught that "The second diameter measurement is made between hermetic coater 54 and protective coater 56" and "Since the fiber has been hermetically-coated at this point, the technique used for this measurement must be operable in the presence of such a coating" in col. 4, lines 60-66, US 5551967.
- The comment from line 18 of page 10 to line 4 of page 11 of the F.O.A. has mistakes. For example, the fact is that to perform routine experimentation can not dynamically provide a new sample data dynamically in real time.
- The F.O.A. states "Most important, Urruti discloses the same concept that applicant has: measuring at more than one location to get better control of the diameter controlling process." However, a most important issue is to identify what to be measured, where to be measured, what related technique to be used for measurement, how to utilize the measurement, and what control principle is. This issue is the invention and the key concept in the present invention different from Urruti's. If that statement were used for rejection, how to explain Kenmochi 6178778 (2001) after Urruti. The statement does not recognize the difference and important issues in measuring area and control area.
- If those general comments and statements in the F.O.A. were valid, they would have been also valid against Yoshimura 5073179, Urruti 5551967 and Kenmochi 6178778, thus these patents would not have been issued. But their inventions should be honored.
- Claim 29 depends on Claim 28, and Claim 28 depends on Claim 26. Therefore, in fact, Claim 29 depends only on Claim 28. Essentially, Claim 29 is not a multiple dependent claim.

Substantial Feature Comparison Table (Dr. Sheng-Guo Wang 3-11-2005)

	Optical Fiber Drawing Process	Measurements at different locations for fiber drawing process				Feed speed control using Preform dynamic data	Drawing speed control using Preform dynamic data	Tensor control using Preform dynamic data	New robust control method law
		Preform outer diameter	Bare Fiber Just after heating	Bare Fiber Just before coating or within limited shrinkage before coating					
The Applicant's Invention (US)	X	X	X	X		X	X	X	X
	X	X		X		X	X	X	X
	X	X	X			X	X	X	X
	X	X				X	X	X	X
	X		X	X					X
	X			X					X
Yamamura (JP) US 6220057	(Glass Ingot manufacture)								
Yoshimura (JP) US 5073179	X (1 after furnace before coating)			X					
Urruti (US) US 5551967	X (1 after furnace & 1 after coating)		X						
Kenmochi (JP) US 6178778	Preform manufacture (2 M in furnace, & 1 after heating)								